Driving Digital Transformation with AI-Powered Solutions

01 THE CLIENT

BFA

02 THE CHALLENGE

Banco de Fomento Angola (BFA) sought our assistance in utilising AI to drive their digital transformation with the aim of automating client document validation, improving process efficiency, and enhancing customer services while adhering to strict regulations. The existing manual document validation process at BFA, where client account documents were manually verified by a back-office team, created bottlenecks as subsequent steps relied on the completion and recording of validation in the core banking system.

The main goals of this challenge were to:

• Reduce customer response time.

• Scale processes.

• Improve manual validation performance.

• Reduce operational costs.

03 THE SOLUTION

In close collaboration with bank stakeholders, Critical Software identified key processes and documents impacting operations, collecting, and analysing relevant data to inform project decisions. The project was divided into two phases, with the first focusing on delivering the Minimum Valuable Product and the second expanding functionality and coverage.

Harnessing advanced AI technologies like Machine Learning and Computer Vision, Critical Software was able to develop a solution for document categorisation, information extraction, and validation. The solution, designed as integrated microservices with the existing BPM solution (eMudar), allowed for scalability and independent evolution.

04 THE RESULTS

After the Minimum Viable Product (MVP) was launched, Critical Software's solution successfully helped the bank to achieve its process optimisation goals. Some of the key achievements include:

• Debit card requests are now validated and activated immediately at the bank branch, resulting in a 35% reduction in client waiting time.

• Data consistency is now ensured for the target processes after discovering a higher-than-expected rate of human error during initial data analysis.

• Manual validation queues have been reduced by 60%.

• On average, 3000 processes are analysed daily after implementation, with a 60% automatic approval rate.

The next steps of this initiative are to scale the solution to other bank processes and support additional document types.

05 THE TECHNOLOGY

The main components of this solution are:

• Azure Cognitive Services – used to classify and extract information from digitalised documents.

• ML Operations (MLOps) component integrated with Azure to i) facilitate the annotation of documents; ii) enhance the digitalised images to increase the accuracy of the cognitive services; and iii) train and validate the custom models necessary for each document;.

• Custom validations around the data extracted from the documents.

The cognitive services classify the document and select the appropriate model to extract the data from the document. The extraction has an associated confidence level, and based on a configurable threshold, our system considers the document as valid or invalid. When the documents are considered valid and meet the process requirements, the process moves forward without any manual intervention. However, if any document is invalid, it is sent down a different path where a human operator in the back office assesses it.

"With this solution it was possible to free up important human resources for tasks more focused on the bank's core business"

ABOUT CRITICAL SOFTWARE

Critical Software provides systems and software services for safety, mission and business-critical applications. We work closely with our clients, helping them to meet the most demanding standards for performance and reliability.

We were founded in 1998, with NASA our very first client. Today, we work across many international industries and have offices across the globe.

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We are CMMI Maturity Level 5 rated.
For a list of our certifications & standards visit our website.